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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/933,220	08/20/2001	Mitko G. Mitev	10012237-1	6401

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EXAMINER

KIM, CHONG R

ART UNIT	PAPER NUMBER
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2623

DATE MAILED: 02/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/933,220	Applicant(s) MITEV ET AL.	
	Examiner Charles Kim	Art Unit 2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 November 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-5,7,9,11-13,16-20,22-26 and 30-35 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1, 3-5, 7, 9, 11-13, 16-20, 22-26, 30-35 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

by

DETAILED ACTION

Response to Amendment and Arguments

1. Applicant's amendment filed on November 28, 2005 has been entered and made of record.
2. Applicant's arguments have been fully considered, but they are not deemed to be persuasive for at least the following reasons.

In response to applicant's argument that it would not be obvious to combine Brownlee with Yamada, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Brownlee illustrates three specific implementations of his user interface in figures 9-11. However, his user interface is not limited to these implementations. For example, Brownlee explains that one skilled in the art would "understand how to extend this description to other embodiments, implementing other types of cursor control mechanisms" (col. 5, lines 23-25). This clearly *suggests* that Brownlee's roller may be implemented in a variety of different user interface configurations.

Yamada's touch pad comprises a cursor control mechanism. The Applicants argue (page 9) that there is no suggestion to introduce Yamada's touch pad in Brownlee's user interface because Brownlee already has a device (cursor control device 1110) that performs its function.

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The Examiner disagrees. Brownlee suggests that his roller may be implemented so that it coexists with a cursor control mechanism in figures 9-10. Figures 9-10 illustrate a mouse and a track ball, both cursor control devices, which include a roller for sensing an image of a fingerprint. Brownlee explains that the roller may be used as a scrolling wheel “to move a page without affecting the cursor location.” (col. 4, lines 51-56). Hence, it would not have been difficult for one of ordinary skill in the art to imagine using the roller with a touch pad based on Brownlee’s teachings. Although figure 11 illustrates the use of roller 1110 as a cursor control device, Brownlee expressly states that the user interface is not limited to this specific implementation. Thus, it appears that one may use the roller 1110 in keyboard 1120 as a scrolling wheel instead (col. 7, lines 38-43).

It would have been obvious for one of ordinary skill in the art to combine the teachings of Brownlee and Yamada to provide a flexible and easy-to-use user interface device (keyboard) that includes a roller capable of imaging a fingerprint and functioning as a scrolling wheel and a touch pad for cursor control. The suggestion/motivation for doing so would have been to enhance the functionality of the user interface by providing the capabilities of scrolling, cursor movement, and fingerprint imaging, all in one compact device. Accordingly, the Office has established a prima facie case of obviousness and therefore, the rejections with respect to claims 1, 3-5, 7, 9, 11-13, 16-20, 22-26 and 30-34 are maintained.

Applicants further argue that, “one of skill in the art would not have positioned the purportedly obvious touch pad such that the cursor control device 1110 was located between the touch pad and the keys.” The Applicants refer to figure 11 to support their argument. The Examiner disagrees. The Examiner believes that figure 11 was meant for illustration purposes

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only. It does not appear that Brownlee intended the implementation of the roller to be limited to the exact position depicted in figure 11. As noted above, Brownlee expressly states that the roller may be implemented in a variety of different configurations. Also, there is no evidence in Yamada that suggests the touch pad be limited to the size and location depicted in figure 1.

Yamada teaches a touch pad that includes two buttons below it. In implementing Yamada's touch pad and buttons into Brownlee's keyboard, it would seem more natural to place the roller above the pad. For example, it appears that a user would require much less effort/movement of the hand when switching from using the touch pad and buttons to the roller if the roller was placed above the touch pad. Hence, one of ordinary skill in the art would have reasonably placed the roller above the pad in order to enhance the comfort of using the integrated touch pad, buttons, and roller. Accordingly it would have been obvious to one of skill in the art to combine the teachings of Brownlee and Yamada to provide a user interface that includes a roller that is located between the touch pad (and buttons) and the keyboard.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

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3. Claims 1, 3-5, 7, 9, 11-13, 16-20, 22-26, 30-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Brownlee, U.S. Patent No. 6,282,303 ("Brownlee") and Yamada et al., U.S. Patent No. 6,560,612 ("Yamada").

Referring to claim 1, Brownlee discloses a user interface (1120) for use with a computer including a display, comprising:

- a. an at least partially transparent roller (1110) [col. 4 line 66-col. 5, line 25 and figure 11];
- b. a sensor system, associated with the transparent roller, operable in a first mode to sense the image of a fingerprint and operable in a second mode to sense the rotational motion of the roller (col. 4, lines 15-col. 5, line 25).

Brownlee does not explicitly disclose a touch pad adjacent to the roller. Note that the transparent roller in Brownlee's system is implemented on the lower portion of a keyboard, directly underneath the spacebar (figure 11). The Examiner notes that touch pads located at the lower portion of a keyboard were exceedingly well known in the art. For example, Yamada discloses a touch pad (11) implemented on the lower portion of a keyboard (figure 1), wherein the touch pad is adapted to move a pointer on a display (col. 4, lines 19-40).

Brownlee and Yamada are combinable because they are both concerned with user interface systems. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the keyboard of Brownlee so that it includes the touch pad of Yamada at the lower portion of the keyboard. The suggestion/motivation for doing so would have been to enhance the flexibility of the user interface system by providing the user with the capability of selecting various configurations selectively to satisfy functional and personal

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preferences. Therefore, it would have been obvious to combine Brownlee with Yamada to obtain the invention as specified in claim 1. Note that the combination of Brownlee and Yamada provides a keyboard that includes the transparent roller (1110 in figure 11) of Brownlee adjacent to the touch pad (11 in figure 1) of Yamada.

Referring to claim 3, Brownlee discloses that the user interface further comprises a (keyboard) button (figure 11).

Referring to claim 4, Brownlee and Yamada disclose substantially the claimed invention as set forth in the discussion above for claim 1. Yamada further discloses a pair of buttons (12, 13) in figure 1. However, Brownlee and Yamada do not explicitly disclose that the pair of buttons are laterally aligned with, and located on opposite sides of the roller.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to provide a pair of buttons laterally aligned with and located on opposite sides of the roller. Applicant has not disclosed that placing buttons in such a manner provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with either the button and roller layout taught by Brownlee and Yamada or the claimed button and roller layout because both layouts perform the same functions of fingerprint sensing, scrolling, and left/right clicks.

Therefore, it would have been obvious for one of ordinary skill in the art to modify Brownlee and Yamada to obtain the invention specified in claim 4.

Referring to claim 5, Brownlee discloses that the user interface further comprises a plurality of keys together defining a keyboard (figure 11). Brownlee does not explicitly disclose

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that the roller is located between the touch pad and the keyboard. However, the combination of Brownlee (figure 11) and Yamada (figure 1) disclose a user interface that includes a roller that is located between a touch pad and the keyboard.

Referring to claim 7, Brownlee further discloses that the sensor system includes a light sensor and a light source that emits light which passes through the roller (col. 3, lines 11-42 and figure 2).

Referring to claim 9, Brownlee discloses a user interface for use with a computer including a display, comprising:

- a. an at least partially transparent roller (203, 1110) [col. 3, lines 11-42 and figures 2 and 11];
- b. a light source (215) that emits light which passes through the roller [col. 3, lines 11-42 and figure 2];
- c. a light sensor (223) that receives reflected light [col. 3, lines 11-42 and figure 2];
- d. a rotational motion sensor associated with the roller that senses rotational motion of the roller (col. 3, lines 43-65);
- e. a control system, associated with the light source, light sensor and rotational motion sensor, the control system being operable in a first mode to enable operation of the light source, light sensor and rotation motion sensor (col. 5, line 26-col. 6, line 33, more specifically col. 6, lines 8-33) and operable in a second mode to enable operation of the rotation motion sensor and disable operation of at least one of the light source and at least a portion of the light sensor (col. 5, lines 26-40, more specifically lines 39-40).

Brownlee does not explicitly disclose a touch pad adjacent to the roller. Note that the transparent roller in Brownlee's system is implemented on the lower portion of a keyboard directly underneath the spacebar (figure 11). The Examiner notes that touch pads located at the lower portion of a keyboard were exceedingly well known in the art. For example, Yamada discloses a touch pad (11) implemented on the lower portion of a keyboard (figure 1), wherein the touch pad is adapted to move a pointer on a display (col. 4, lines 19-40).

Brownlee and Yamada are combinable because they are both concerned with user interface systems. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the keyboard of Brownlee so that it includes the touch pad of Yamada at the lower portion of the keyboard. The suggestion/motivation for doing so would have been to enhance the flexibility of the user interface system by providing the user with the capability of selecting various configurations selectively to satisfy functional and personal preferences. Therefore, it would have been obvious to combine Brownlee with Yamada to obtain the invention as specified in claim 9. Note that the combination of Brownlee and Yamada provides a keyboard that includes the transparent roller (1110 in figure 11) of Brownlee adjacent to the touch pad (11 in figure 1) of Yamada.

Referring to claim 11, see the rejection of at least claim 3 above.

Referring to claim 12, see the rejection of at least claim 4 above.

Referring to claim 13, see the rejection of at least claim 5 above.

Referring to claim 16, Brownlee discloses a computer system, comprising:

- a. a display (col. 7, lines 42-43);

b. a user interface including an at least partially transparent roller (col. 3, lines 11-42 and figures 2 and 11);

c. an image sensor associated with the roller that senses the image of a fingerprint and generates fingerprint image data (col. 3, lines 11-42 and figure 2);

d. a rotational motion sensor associated with the roller that senses rotational motion of the roller and generates roller motion data (col. 3, lines 43-65);

e. a control system associated with the image sensor and rotational motion sensor, the control system being operable in a first mode to convert the fingerprint image data and rotational motion data into data representative of the scanned fingerprint (col. 4, lines 15-36), and operable in a second mode to control an operation of the computer system in response to the roller motion data (col. 4, lines 40-56 and col. 7, lines 14-20).

Brownlee does not explicitly disclose a touch pad adjacent to the roller. Note that the transparent roller in Brownlee's system is implemented on the lower portion of a keyboard directly underneath the spacebar (figure 11). The Examiner notes that touch pads located at the lower portion of a keyboard were exceedingly well known in the art. For example, Yamada discloses a touch pad (11) implemented on the lower portion of a keyboard (figure 1), wherein the touch pad is adapted to move a pointer on a display (col. 4, lines 19-40).

Brownlee and Yamada are combinable because they are both concerned with user interface systems. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the keyboard of Brownlee so that it includes the touch pad of Yamada at the lower portion of the keyboard. The suggestion/motivation for doing so would have been to enhance the flexibility of the user interface system by providing the user with the

capability of selecting various configurations selectively to satisfy functional and personal preferences. Therefore, it would have been obvious to combine Brownlee with Yamada to obtain the invention as specified in claim 16. Note that the combination of Brownlee and Yamada provides a keyboard that includes the transparent roller (1110 in figure 11) of Brownlee adjacent to the touch pad (11 in figure 1) of Yamada.

Referring to claim 17, Brownlee further discloses that the control system comprises at least one processor (figure 6).

Referring to claim 18, Brownlee further discloses a computer housing in which the processor is located (col. 1, lines 26-44. Note that the laptop computer in line 29 comprises a computer housing).

Referring to claim 19, Brownlee further discloses that the display is pivotably connected to the computer housing (col. 1, lines 26-44. Note that the laptop computer in line 29 comprises a display pivotably connected to the computer housing).

Referring to claim 20, Brownlee does not explicitly disclose that the user interface is mounted on the computer housing. However, this feature was exceedingly well known in the art. For example, Yamada discloses a user interface that is mounted on a computer housing (figure 1). Therefore, it would have been obvious to combine Brownlee and Yamada, for the reasons stated above (claim 16).

Referring to claim 22, Yamada further discloses that the user interface includes right and left click buttons (12, 13) and the touch pad is located between the right click and left click buttons and the space bar (figure 1). As noted above, Brownlee explains that the roller is positioned directly underneath the space bar. Therefore, the combination of Brownlee and

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Yamada disclose a touch pad (11) that located between the right click and left click (12, 13) buttons and the roller (1110).

Referring to claim 23, see the rejection of at least claim 5 above.

Referring to claim 24, Brownlee further discloses a light source that emits light which passes through the roller and a light sensor that receives light reflected through the roller (figure 2).

Referring to claim 25, Brownlee further discloses that the control system disables at least one of the light source and at least a portion of the light sensor in the second mode (col. 5, lines 39-40).

Referring to claim 26, Brownlee further discloses that the operation of the computer system comprises a scrolling operation (col. 4, lines 40-56).

Referring to claims 30, 31, see the rejection of at least claim 22 above.

Referring to claim 32, Brownlee further discloses that the roller comprises a scroll roller (col. 7, lines 39-43).

Referring to claims 33-34, see the rejection of at least claim 32 above.

Referring to claim 35, see the rejection of at least claim 4 above.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Kim whose telephone number is 571-272-7421. The examiner can normally be reached on Mon thru Thurs 8:30am to 6pm and alternating Fri 9:30am to 6pm.

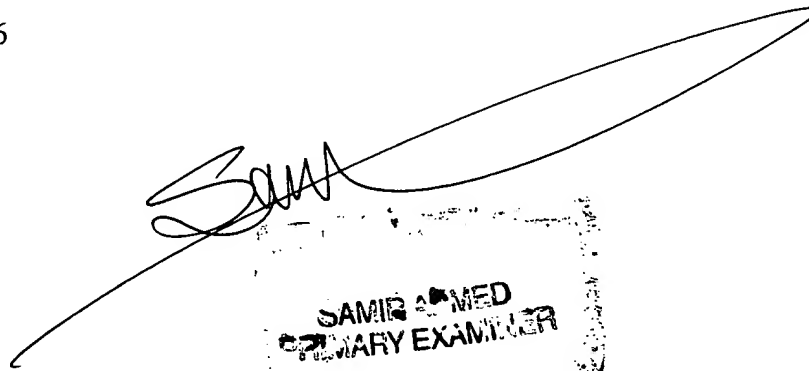
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on 571-272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-272-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ck
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February 8, 2006


SAMI AHMED
PRIMARY EXAMINER